

1. Chromosome placement of new genes from radiation.

Linkage tests of seedling mutants with endosperm marked translocations have determined the chromosome or linkage group for 14 of these mutants, and as our seedling tests are not yet completed, it is expected that several more will be placed. These 14 are as follows:

<u>Character</u>	<u>Source</u>	<u>Chromosome</u>
white seedling	4889	9
sienna	7758	8
yellow	7716	9 or 10
w(albino)	7716	3
w ₃	(old gene)	2
blue fluorescent no. 2		10
fungoid	8057	1
white (green base)	7263	6
zebra	5588	9
dwarf	p51	2
dwarf	7335	9
dwarf	8201	9
dwarf	8004	9
dwarf	8054	9

Some of the last four dwarfs are probably alleles but are of independent origin. They have not yet been intercrossed.

These are the results of seedling tests of crosses of genes with translocation cultures grown mostly for other purposes. Naturally the crosses were made with whatever suitably marked translocations happened to be available. The past year two blocks were laid out for this purpose, and crosses made in more orderly fashion. These have given us more adequate coverage for a larger number of genes, the results of which should be available next winter. The results to date are very encouraging and, we believe, amply justify using the endosperm-marked translocation technique for the placement of new genes in their respective linkage groups.

E. G. Anderson